

HOW PROMOTIONS WORK

ROBERT C. BLATTBERG, RICHARD BRIESCH, AND EDWARD J. FOX

Northwestern University

New York University

Northwestern University

By synthesizing findings across the sales promotion literature, this article helps the reader understand how promotions work. We identify and explain empirical generalizations related to sales promotion; that is, effects that have been found consistently in multiple studies involving different researchers. We also identify issues which have generated conflicting findings in the research, as well as important sales promotion topics that have not yet been studied. This overview of the research and findings from the sales promotion literature is intended to offer direction for future research in the area.

(Sales Promotion; Retailer Promotions; Trade Promotion; Empirical Generalizations)

1. Introduction

In many industries, promotions represent a significant percentage of the marketing mix budget. Nondurable goods manufacturers now spend more money on promotions than on advertising. Airlines periodically offer discounts to generate incremental traffic. Financial institutions use promotions to induce customers to use their services or, as in the case of mortgages, often discount first-year rates to obtain a long-term income stream from the customer. Farm equipment manufacturers use price promotions to sell excess inventory. Across industries, then, price promotions are an important part of the marketing mix.

Consistent with the focus of this special issue, the purpose of this article is to describe the empirical generalizations that can be drawn from the published literature on price promotions. Actually, the price promotions literature is new relative to other research areas in marketing, having been developed primarily since the early 1980s.

Before proceeding, it is useful to describe the types of promotions that will be considered in this article. Generalizations will be drawn regarding both retail and trade promotions,¹ but not manufacturer couponing. Promotions will be considered in a broader context than simply price promotions and will include co-op advertising funds, display allowances to the trade (the intermediaries in the channel), as well as display and feature advertising activity direct to the consumer. While couponing represents a very important part of the promotional literature and a major expenditure for consumer packaged-goods firms, it will not be considered here due to space limitations.

¹ Price promotions are *temporary* price discounts offered to a customer. Retail promotions are promotions offered to consumers by retailers. Trade promotions are promotions offered to retailers by manufacturers. Definitions are paraphrased from Blattberg and Neslin (1990).

In generalizing empirical findings, it is also important to recognize that most of the published literature is based on empirical research of packaged-good products. This is largely because of the availability of scanner (Point-of-Sale) data for consumer packaged goods from syndicated sources such as IRI and A. C. Nielsen.

The paper is organized as follows. Section 2 provides our definition of an empirical generalization; §3 offers the generalizations in the promotional literature; §4 selects the three most important generalizations to business practice and for academic research; §5 examines some topics for which it is difficult to develop an empirical generalization because of conflicting findings in the literature; §6 discusses important topics for which empirical studies have been limited; §7 discusses the managerial implications of selected generalizations; and §8 provides conclusions.

2. Definition of an Empirical Generalization

The definition of an empirical generalization used in this article is (1) the topic being analyzed is well-defined; (2) there are at least three articles by at least three different authors in which empirical research has been conducted in the specific area; and (3) the empirical evidence is consistent, i.e., the sign of the effect is the same in each of the articles.

Some research areas should and often do require more empirical evidence before an effect is considered an empirical generalization. It is not possible to make the criteria too stringent for promotions, however, because the area is relatively new. Other writers in this issue will use different definitions, and it will be interesting to compare the generalizations found. Lastly, the general direction of the generalizations will be reported, not the magnitudes. It is very difficult to conduct a meta-analysis or report the general magnitude of the effects because the articles do not report the results using a standardized mechanism. Economists, for example, report elasticities which are comparable across studies. No such standard reporting procedure has been used in the promotional literature, hence it is not possible to report the general magnitude of effects. This issue is discussed in more detail in the last section of the paper.

3. Empirical Generalizations

Before listing the specific generalizations, it is valuable to identify the types of topics that have received primary emphasis in the promotions literature. Table 1 provides a brief description of the topic areas and the number of articles devoted to each topic. Some articles cover multiple topics and are counted under several topics areas.

Listed below are the generalizations and the articles which support those generalizations.

1. *Temporary retail price reductions substantially increase sales.* The literature has found that temporary retail price promotions cause a significant short-term sales spike. This can be contrasted to consumer advertising (*not* retail feature advertising), where it is difficult to see a sales spike corresponding to increases in advertising spending. Sales increases due to temporary retail price promotions were documented by Woodside and Waddle (1975), Moriarty (1985), and Blattberg and Wisniewski (1987). This result is fundamental to virtually all research done in the area of promotions.

2. *Higher market share brands are less deal elastic.* This result implies that higher share brands have lower deal elasticities,² even though higher share brands may capture a large proportion of switchers. The result was found by Bolton (1989), Bemmaor and Mouchoux (1991), and Vilcassim and Jain (1991). These articles all use market share as the dependent variable.

² The term "deal elasticities" is difficult to define because the point elasticity may not be the best way to create a comparable measure across products. One may want to specify a "20% price reduction" to calculate the percentage change in sales so that comparison across products would be possible.

TABLE 1
Number of Articles by Topic Area

Description of the Topic	Number of Articles
Variations in consumer responsiveness to deals —Differences in consumer response to promotions by product, category, market, and type of consumer	24
Sources of deal volume —Sources of incremental promotional sales as a result of changes in purchase behavior associated with the promotion, including brand- and store-switching, purchase acceleration, and stockpiling	17
Cross-deal effects —The impact of a particular brand's or category's promotion on other brands or categories	17
General magnitude of deal and price effects —Magnitudes of changes in purchase behavior and product sales as a result of promotions and associated temporary price reductions	14
Impact of deal depth and frequency of deals —Effect of variation in promotional discount levels and promotional frequency on product sales or consumer purchase behavior	14
Merchandising and advertising effects on promotion —Effect of merchandising and advertising conditions on promotional response	12
Long-term effects of deals —The effect of promotions over time on brand sales and profits	8
Pass-through of trade deal funds —The proportion of manufacturers' promotional funds offered to channel members which are, in turn, offered to consumers in the form of temporary price discounts	7
Troughs after deal —The reduction in product sales following a promotional period due to changes in consumer purchase behavior as a result of the promotion	6
Store switching effects —The impact of promotions on consumers' store choice (as opposed to the frequency of store visits)	6
Psychological pricing of deals —The effect of price points and multiple pricing, independent of the depth of discount	1

3. *The frequency of deals changes the consumer's reference price.* This finding is important because it offers an explanation for the loss of brand equity when brands are heavily promoted. A lower consumer reference price reduces the premium that can be charged for a brand in the marketplace, which results in less "equity." The effect of deal frequency on consumers' reference price was found by Lattin and Bucklin (1989), Kalwani et al. (1990), Kalwani and Yim (1992), and Mayhew and Winer (1992).

4. *The greater the frequency of deals, the lower the height of the deal spike.* This result is likely to be caused by (1) consumer expectations about the frequency of deals and (2) changes in the consumer's reference price. The empirical result was documented by Bolton (1989), Raju (1992), and indirectly through the preceding generalization (#3), which, in combination with Winer (1986)/Putler (1992), links reference price to purchase behavior. While some articles use cross-sectional models and some use time-series models, this generalization refers to time-series results.

5. *Cross-promotional effects are asymmetric, and promoting higher quality brands impacts weaker brands (and private label products) disproportionately.* Promoting certain brands causes customers to switch from a competing brand in greater numbers than promoting that competing brand will cause to switch from them. One possible explanation is that asymmetry in switching is due to differences in brand equity. Numerous other explanations have been offered in the literature, such as prospect theory (Kahneman and Tversky 1979 and Hardie et al. 1993). Asymmetric switching was documented by Blattberg and Wisniewski (1987) and (1989), Krishnamurthi and Raj (1988) and (1991), Cooper (1988), and Walters (1991). This result was also found by Allenby and Rossi (1991), Bemmaor and Mouchoux (1991), Grover and Srinivasan (1992), Kamakura and Russell (1989), Mulhern and Leone (1991), and Vilcassim and Jain (1991).

An extension of this finding focuses on asymmetries in brands' perceived type or tier and predicts the impact that promoting a brand in a given tier is likely to have on

switching from brands in other tiers. Promoting higher tier brands generates more switching than does promoting lower tier brands. This result was found by Blattberg and Wisniewski (1989), Kamakura and Russell (1989), Mulhern and Leone (1991), and Allenby and Rossi (1991).

6. *Retailers pass-through less than 100% of trade deals.* Because retailers are the vehicle for pass-through of trade promotional money to consumers, it is important to recognize that most brands receive far less than 100% pass-through.³ Curhan and Kopp (1986) found that brand characteristics result in different levels of pass-through. The finding that less than 100% of trade promotion funds are passed through was made by: Chevalier and Curhan (1976), Curhan and Kopp (1986), Walters (1989), and Blattberg and Neslin (1990).

7. *Display and feature advertising have strong effects on item sales.* Most practitioners already know this result—it is somewhat obvious. However, an important related issue is the *interaction* between feature advertising and display and the synergistic effect that is created. Few empirical results have been generated regarding the synergies between feature advertising, displays, and price discounts. The effect of display and feature advertising was found by Woodside and Waddle (1975), Blattberg and Wisniewski (1987), and Kumar and Leone (1988). Bemmaor and Mouchoux (1991), Bolton (1989), and Kumar and Leone (1988) also confirm this effect.

8. *Advertised promotions can result in increased store traffic.* There is surprisingly little empirical work devoted to this issue, given its practical importance. The weight of evidence (four studies versus one), however, is that advertised promotions of some products and categories do have an impact on store traffic.⁴ A likely explanation for Vilcassim and Chintagunta's (1992) failure to find a significant store-switching effect for the cracker category is that the magnitude of this effect varies depending upon the category. Research should be done to identify which categories have more substantial impact on store switching. The positive effect of advertised promotions on store traffic was found by Walters and Rinne (1986), Kumar and Leone (1988), Walters and MacKenzie (1988), and Grover and Srinivasan (1992).

9. *Promotions affect sales in complementary and competitive categories.* This finding is also well understood by practitioners, though the magnitude of this effect is not. The sales impact of promoting one category on a complementary or competing category is very likely a function of the type and characteristics of the categories themselves. The effect of promotions on complementary and competitive categories was found by Walters and Rinne (1986), Walters and MacKenzie (1988), Mulhern (1989), Mulhern and Leone (1991), and Walters (1991).

4. Importance of the Generalizations

To highlight the most important generalizations, we have selected three generalizations which are particularly important to business practice and three which are particularly important to academic research. The selections are subjective and based on the authors' experiences, but they allow others to consider the impact of specific areas of research on both business practice and academic research. No inferences about relative importance are intended based on the order in which the key generalizations are presented.

The most important generalizations for business practice are (1) promotions significantly increase sales, (2) retailers pass-through less than 100% of trade deals, and (3)

³ Pass-through is defined here as the percentage of funds, offered by a manufacturer to a retailer, which are reflected in promotional discounts to the consumer. Greater than 100% pass-through means the retailer offers discounts to the end user in excess of the funds which are received from the manufacturer.

⁴ Store switching is viewed as a subset of increased store traffic, which also includes consumers visiting multiple stores.

advertised promotions can increase store traffic. That promotions significantly increase sales is vital to both packaged goods and durables in light of the dramatic growth of promotional spending in marketing budgets over the past decade. Retailers passing-through less than 100% of trade deals is a crucial issue which is fundamental to the success or failure of manufacturer programs to reduce promotional spending (e.g., Procter & Gamble's "value pricing"). That advertised promotions can increase store traffic is also critical to practitioners, because this must be true for a high-low, or promotional, retailer strategy to be viable.

Generalizations of particular importance for academic research are (1) the frequency of deals changes reference price, (2) greater deal frequency lowers the deal spike, and (3) cross-promotional effects are asymmetric. The generalization that deal frequency changes reference price has helped stimulate the development of an increasingly extensive literature on reference price. The generalization that deal frequency lowers the deal spike has contributed heavily to consumer behavior research regarding promotions. The empirical generalization that cross-promotional effects are asymmetric has had a large impact on the literature concerning how promotions work.

5. Key Issues with Conflicting Empirical Results

1. *The Majority of Promotional Volume Comes from Switchers*

Gupta (1988) and Totten and Block (1987) find that the majority of promotional volume comes from switchers.⁵ Vilcassim and Chintagunta (1992) and Chintagunta (1993) find, however, that more promotional volume comes from category expansion than from switchers. This result is more consistent with observations that cross-price elasticities are much smaller than own-price elasticities (Bemmar and Mouchoux 1991) which implies that most promotional volume is not gained at the expense of other brands.

One possible explanation of these conflicting results is that sources of promotional volume are dependent on the characteristics of the category (Blattberg and Wisniewski 1987). This explanation is supported by the understanding that categories have widely different potentials for increased consumption (e.g., toilet paper versus candy).⁶ While increased consumption is only one component of category expansion (store switching, purchase acceleration, and stockpiling are others), it would nevertheless help explain category differences in sources of volume.

Totten and Block (1987), Gupta (1988), and Kumar and Leone (1988) found that switchers account for the majority of promotional volume. Vilcassim and Chintagunta (1992) and Chintagunta (1993) found that switchers did not account for the majority of promotional volume. Blattberg and Wisniewski (1987) found that the result varies by category.

2. *Promotional Elasticities Exceed Price Elasticities*

This is a critical issue and one that yields no conclusive results. Some argue that the price discount component of promotions works exactly like any price reduction (price elasticities are equal to promotional elasticities). Others argue that the temporary nature of promotional price reductions results in a higher sales spike because the consumer forward buys, purchase accelerates and increases category consumption in some situations. Still others argue that there is a "transaction" utility to promotions that does not exist

⁵ The definition of a switcher is critical to the analysis. At one level, it is difficult to classify individuals into finite segments such as switchers. For a given consumer, the percentage of category requirements that a given brand represents can vary from 0% to 100%. Therefore, arguing the majority of volume comes from switchers means consumers increase the share of their category requirements to the brand because of the promotion.

⁶ Increased consumption includes both new users due to the reservation price effect and increased usage by current consumers.

with longer-term price reductions, and therefore promotions increase sales more than simple price changes. The methodology for testing whether promotional elasticities are greater than price elasticities is to add an additional term to the model when a promotion is run. This term is then tested to see if it is positive and statistically significant.

Blattberg and Wisniewski (1987), Lattin and Bucklin (1989), and Mulhern and Leone (1991) found that promotional elasticities exceed price elasticities. Guadagni and Little (1983) found that the elasticities were the same.

3. *There is a Trough After the Deal*

This effect has been surprisingly difficult to find. The early literature (Blattberg et al. 1981 and Neslin et al. 1985) found evidence of purchase acceleration and stockpiling, but later studies do not seem to find these “post-deal troughs.” Examination of store-level POS data for frequently purchased goods rarely reveals a trough after a promotion, but some researchers do find evidence of a trough in household panel data. This anomaly is surprising and needs to be better understood.

Blattberg et al. (1981), Neslin et al. (1985), and Jain and Vilcassim (1991) found a trough following the deal. Grover and Srinivasan (1992) and Vilcassim and Chintagunta (1992) found no trough.

4. *There is a Negative Long-term Effect to Promotions*

This is probably the most debated issue in the promotional literature and one for which the “jury is still out.” Advocates of advertising (e.g., advertising agencies) often argue that promotions are detrimental to the long-term health of brands. Early research seemed to confirm this long-term negative effect (e.g., Dodson et al. 1978 and Strang 1975, but later studies began to question this result (e.g., Johnson 1984). This is still an open question that is critical to the effective use of promotions as part of the marketing mix.

Strang (1975), Shoemaker and Shoaf (1977), and Dodson et al. (1978) found empirical evidence that promotions have a negative long-term effect. Johnson (1984), Totten and Block (1987), and Neslin and Shoemaker (1989) did not find a negative impact long term. Boulding et al. (1994) found that the long-term impact of promotions may be negative or positive.

6. Key Issues with Limited Empirical Results

1. *What is the Shape of the Deal Effect Curve?*

Is the deal curve linear, concave, convex, or S-shaped? Little is known about the shape of the deal effect curve, though it determines the “optimal” dealing amounts. The importance of this topic relates to the “optimization” of promotional discounts. If the effect is convex (i.e., has increasing returns), then the firm will run deeper deals than if the effect is concave (i.e., has decreasing returns). Some argue that the curve has an S-shape, with increasing returns over some range and decreasing returns at higher deal discounts. The argument is based on the belief that consumers can stockpile only a certain amount, after which their storage and holding costs are too high.

2. *Is the Magnitude of the Purchase Acceleration Effect Larger than that of the Stockpiling Effect?*

The published literature indicates that the stockpiling effect is relatively small. Neslin et al. (1985) and Gupta (1988), for example, find limited stockpiling. Is the magnitude of stockpiling category-specific? Also, the distinction between purchase acceleration and stockpiling is not clear—both are forms of increasing the consumer’s quantity of the good on hand. Are purchase acceleration and stockpiling distinctly different?

3. *What Are the Magnitudes and Signs of the Interaction Between Display, Feature Advertising, and Price Discount?*

This is very important for both retailers and manufacturers because (a) it will determine the trade spending strategy of manufacturers, and (b) it will impact the way that retailers allocate their display and feature advertising space. If there are synergies, then manufacturers must focus on obtaining joint merchandising with the retailer (Bemmaor and Mouchoux 1991 consider this issue), and retailers must focus on using these merchandising tools to maximize their return. Studies which consider interactive effects are Woodside and Waddle (1975), Popkowski-Leszczyc and Rao (1990), and Bemmaor and Mouchoux (1991).

4. *What Is the Category Expansion Effect of Deals?*

With increasing importance being placed on category management, this question becomes critical for practitioners to understand. Vilcassim and Chintagunta (1992) find that promotions in the cracker category expand category sales; however, there are no studies that evaluate the effect for other categories and conditions. Notwithstanding the lack of empirical results, manufacturers and retailers are very interested in the circumstances in which category expansion occurs and what causes it.⁷

5. *How Much Incremental Volume in Other Categories Do Deals Generate?*

Do deals bring in customers who generate incremental store sales? In what categories? Are these customers profitable to the retailer, given their acquisition cost? Walters and MacKenzie (1988), Walters (1988) and (1991), and Mulhern and Leone (1990) each studied the effect of promotions on store sales and/or sales of other categories.

6. *How Do Promotions Affect Price Image?*

Along with store-switching effects, this is one of the most important questions retailers face regarding promotions. Do promotions affect the price image of a retailer? How? Is an EDLP (everyday low price) strategy superior to a promotional strategy in creating or changing a price image? Which pricing strategy is better for attracting customers? An experimental study by Alba et al. (1994) provides the only findings on the topic.

7. **Marketing Implications of the Empirical Generalizations**

In identifying empirical generalizations, it is useful to understand the marketing implications. The purpose of this section is to select some of the aforementioned generalizations and consider how they affect marketing practices.

1. *Promotional Elasticities Exceed Price Elasticities*

Implication. While this is not actually a generalization, if true it has important implications for practitioners and academics. Promotions alter consumer behavior beyond the normal price/quantity trade-off. Promotions alter behavior by changing the time that the customer buys the product and how much the customer buys. There is also a belief that consumers will buy simply because the product is on promotion in order to be a "smart" shopper (see Schindler 1984a and 1984b, c.f. Blattberg and Neslin 1990 p. 286–287).

Managers should therefore consider a higher "shelf," or regular, price and then offer discounts from the regular price to increase total sales and profits. If promotional elasticities far exceed price elasticities, a retailer must question the effectiveness of an EDLP strategy.

⁷ This subject is related to sources of promotional volume.

2. *Promotions Influence the Reference Price of the Product*

Implication. Products can be over-promoted. If a product is promoted heavily (meaning discounted deeply and promoted frequently) the consumer's reference price of the product decreases. The consumer will then buy less of the product at regular price because his or her reservation price has decreased correspondingly.⁸

3. *Cross-promotional Affects Are Asymmetric*

Implication. Because promotions are asymmetric, it becomes possible for firms to use promotions to gain an advantage. For example, suppose brand 1 attracts more of brand 2's customers than brand 2 attracts of brand 1's—hence the asymmetry. Brand 1 can then use promotions more effectively than brand 2. Under certain circumstances brand 1 should start a promotional war. By promoting heavily, brand 1 can capture significant share from brand 2. Brand 2 cannot easily retaliate because of the asymmetry in promotional response.

One caveat must be offered with this strategy. If brand 1 over-promotes, it is possible that the asymmetry may change. Based on some of the other empirical findings, as promotion frequency increases, consumers' reference prices change; hence, the asymmetry may decline. It is therefore critical to understand the dynamic behavior (if any) of the asymmetric cross-elasticities.

4. *Price-tiers Exist and Competition Across Tiers Is Asymmetric*

Implication. National brands can promote to capture share from private label brands and ultimately defend their position against private label brands. This is an argument that Lal (1990a) makes as a way for brands to dominate private label competition. His requirement is "tacit" collusion among the national brands and a rotation of national brand promotions so that the private label is constantly under attack by a national brand.

There are also other conditions under which private label brands can be attacked effectively by national brands. For example, if consumers in a category stockpile (or purchase accelerate), then a promotion by a national brand will influence price-sensitive consumers to stockpile. They will not buy the private label brand, then, until the next promotion. Less price-sensitive national brand customers will buy at regular price, so promotions serve as a price discrimination vehicle between private label and national brands, partly through stockpiling. Jeuland and Narasimhan (1985) make a similar argument, though not about private label versus national brands, that promotions are a mechanism to price discriminate.

The implication for a retailer who determines that national brands are attacking private label through promotional frequency is that the retailer must "shield" private label. Shielding can be accomplished by lowering the price of private label below the national brand price so that very price-sensitive consumers do not switch to the lower margin national brands. Retailers definitely follow this strategy and are aware of the problem.

5. *Retailer Pass-through Is Less than One Hundred Percent*

Implication. Some portion of funds spent by manufacturers to stimulate retailer promotions is pocketed by the retailer to enhance their profits. In fact, retailers manage promotional funds as if it is a profit center (and for some retailers it is). Thus, forward buying income is very important to the economic viability of many grocery retailers and wholesalers. However, this behavior can be detrimental to manufacturers, particularly weaker brand manufacturers, because they receive far less pass-through than leading brands. Their alternative is to employ pull strategies, which are designed to avoid the

⁸ The reservation price is the price above which the consumer will not buy the product, but below which he or she will buy.

pocketing of funds by the retailer. Pull strategies, however, are less effective in generating short-term sales per dollar invested. Hence, manufacturers are in a serious bind concerning how to avoid the lack of pass-through.

One solution that has been developed is to pay on "scan sales"—rather than paying allowances on cases shipped to the retailer, the manufacturer pays based on actual cases or units sold. The result is that forward buy is avoided, although the problem of less than 100% pass-through is not reduced. The question that remains unanswered is why the retailer would want to accept scan promotional payments. Also, how can the same concept be applied in nonpackaged goods retailing?

The focus on ECR (Efficient Consumer Response) in grocery retailing is also beginning to address the issue of efficiency of promotions, and this research will no doubt become focused on pass-through and forward buying issues.

8. Concluding Comments

The purpose of this paper is to identify the empirical generalizations in the promotional literature. While the literature is relatively new, we have identified a number of generalizations and topics that merit further research. Rather than reviewing these in the conclusions, we have chosen to make some comments about how to enhance researchers' ability to develop generalizations in the promotions area and, more generally, in the field of marketing.

(1) *We need a standard measure to compare results.* In economics, one can compute a price elasticity, and regardless of the product, results are comparable. In the promotions literature, no such simple common measure exists. The nature of promotions makes elasticities difficult to calculate. Two factors fundamentally influence promotional elasticity: (a) the presence or absence of a promotion, and (b) the depth of promotional discount. The conditions under which promotional elasticities are calculated varies among studies, making direct comparisons difficult if not impossible. This problem could be addressed by adopting a consistent approach to reporting promotional elasticities. If all effects were reported at a 20% discount (or some other fixed discount level), the ability to compare and generalize would be greatly improved. If journal editors or the Marketing Science Institute were able successfully to recommend a standard approach, it would be possible to estimate magnitudes of promotional effects, not simply direction of effects.

(2) *The importance of generalizations.* Without generalizations and the empirical foundations necessary to support them, the development of theories will be impeded. One of the reasons that areas such as economics and finance have spawned more theoretical results than marketing is their focus on empirical research. The early work in the 1960s on efficient markets was driven, in part, by empirical work and empirical generalizations. Without those empirical findings, many alternative research streams might not have developed. Marketing needs the same focus on empirical generalizations. Such a focus would result in more and richer theories.

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